

AMENDMENTS TO THE CLAIMS

This listing of the claims will replace all prior versions, listings, of claims in the application:

Claim 1-6 (canceled)

Claim 7 (currently amended): The method of claim ~~Claim~~ 6 further comprising ~~the step of~~ comparing said values calculated for said one or more computed features for each of said one or more detection cells with a predetermined criteria for each of said one or more features and identifying each of said one or more detection cells in which said calculated value exceeds said predetermined criteria for each of said one or more computed features.

Claim 8 (currently amended): The method of claim ~~Claim~~ 7 further comprising ~~the steps of~~ determining the total number of said identified one or more detection cells, and responsive to said total number exceeding a predetermined threshold, setting a status of said detection zone to a first predetermined status.

Claim 9 (currently amended): The method of claim ~~Claim~~ 8 further comprising ~~the step of~~ responsive to said determined total number of said identified one or more detection cells not exceeding said predetermined threshold, setting said detection zone status to a second predetermined status.

Claim 10 (currently amended): The method of claim ~~Claim~~ 9 further comprising ~~the step of~~ responsive to said detection zone status having said second predetermined status, setting an image status to a first predetermined status.

Claim 11-20 (canceled)

Claim 21 (new): A method for analyzing a time sequence of images comprising:

dividing a reference image based on its visual content into:

(a) first spatially fixed areas of each image in said time sequence of images to analyze for detection by selecting in said reference image one or more detection cells collectively comprising a detection zone in which a statistically significant

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change in one or more predetermined features in said time sequence of images to be analyzed is expected to occur; and

(b) second spatially fixed areas of each image in said time sequence of images to veto a detection of a statistically significant change in one or more predetermined features in said time sequence of images by selecting in said reference image one or more veto cells collectively comprising a veto zone in which any detection in said veto zone of a statistically significant change in one or more predetermined features in said time sequence of images is used to disable any detection of a statistically significant change in said one or more predetermined features in said time sequence of images in said detection zone.

Claim 22 (new): The method of claim 21 further comprising dividing said reference image based on its visual content into third spatially fixed areas of each image in said time sequence of images of zero or more cells that collectively comprise an ignore zone in which no analysis of said time sequence of images is performed.

Claim 23 (new): The method of claim 22 wherein each of said zero or more cells in said ignore zone can be inside or outside one of said one or more detection cells.

Claim 24 (new): The method of claim 21 wherein each of said one or more veto cells can be inside one of said one or more detection cells or each of said one or more detection cells can be inside one of said one or more veto cells.

Claim 25 (new): The method of claim 21 further comprising selecting at least one of said one or more detection cells to be connected to at least another one of said one or more detection cells.

Claim 26 (new): The method of claim 21 further comprising selecting at least one of said one or more veto cells to be connected to at least another one of said one or more veto cells.

Claim 27 (new): The method of claim 22 further comprising

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selecting at least one of said one or more detection cells to be connected to at least another one of said one or more detection cells.

Claim 28 (new): The method of claim 21 comprising selecting said one or more veto cells in an area of said reference image in which no change is expected in said sequence of images to be analyzed.

Claim 29 (new): The method of claim 21 further comprising computing for each image in said time sequence of images one or more features in said detection zone and said veto zone.

Claim 30 (new): The method of claim 29 further comprising calculating for each image in said time sequence of images a value for each of one or more computed features.

Claim 31 (new): The method of claim 30 further comprising comparing said calculated value for each of said one or more computed features of a current image in said time sequence of images to said calculated value for an associated one of said one or more computed features calculated in all of said images in said sequence of images occurring prior to said current image.

Claim 32 (new): The method of claim 31 wherein said calculated value is a mean or standard deviation or a combination thereof.

Claim 33 (new): The method of claim 30 wherein said value calculated for said one or more computed features for said detection zone are calculated for each of said one or more detection cells in said detection zone.

Claim 34 (new): A method for analyzing a time sequence of images comprising:

(a) using a reference image to position analysis cells in said each image of said time sequence of images; and

(b) dividing said reference image based on its visual content into one or more types of analysis cells comprising:

(i) defining first spatially fixed areas of each image in said time sequence of images to analyze for detection by

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selecting in said reference image one or more detection cells collectively comprising a detection zone in which a statistically significant change in one or more predetermined features in said time sequence of images to be analyzed is expected to occur; and

(ii) defining second spatially fixed areas of each image in said time sequence of images by selecting in said reference image one or more veto cells collectively comprising a veto zone in which any detection in said veto zone of a statistically significant change in one or more predetermined features in said time sequence of images is used to disable any detection of a statistically significant change in said one or more predetermined features in said time sequence of images in said detection zone.

Claim 35 (new): A method for analyzing a time sequence of images comprising:

(a) using a reference image to position analysis cells in each image of said time sequence of images; and

(b) dividing said reference image based on its visual content into one or more zones, each of said zones comprising a collection of cells of the same type, said one or more zones comprising:

(i) first spatially fixed areas of each image in said sequence of images by selecting in said reference image a detection zone comprising one or more detection cells in which a statistically significant change in one or more predetermined features in said time sequence of images to be analyzed is expected to occur; and

(ii) second spatially fixed areas of each image in said sequence of images by selecting in said reference image a veto zone comprising one or more veto cells in which any detection in said veto zone of a statistically significant change in one or more predetermined features in said time sequence of images is used to disable any detection of a statistically significant change in one or more predetermined features in said time

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sequence of images in said detection zone.

Claim 36 (new): A system for analyzing a time sequence of images comprising:

a computing device operative to:

divide a reference image based on its visual content into:

(a) first spatially fixed areas of each image in said time sequence of images to analyze for detection by selecting in said reference image one or more detection cells collectively comprising a detection zone in which a statistically significant change in one or more predetermined features in said time sequence of images to be analyzed is expected to occur; and

(b) second spatially fixed areas of each image in said time sequence of images to veto a detection of a statistically significant change in one or more predetermined features in said time sequence of images by selecting in said reference image one or more veto cells collectively comprising a veto zone in which any detection in said veto zone of a statistically significant change in one or more predetermined features in said time sequence of images is used to disable any detection of a statistically significant change in said one or more predetermined features in said time sequence of images in said detection zone.

Claim 37 (new): The system of claim 36 further comprising an image forming device for providing said reference image and said time sequence of images.

Claim 38 (new): The system of claim 37 further comprising a digitizer between said image forming device and said computing device.

Claim 39 (new): A computer readable medium having instructions for causing a computer to execute a method for analyzing a time sequence of images, said mixture having a liquid region, said instructions comprising:

dividing a reference image based on its visual content into:

(a) first spatially fixed areas of each image in said time

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sequence of images to analyze for detection by selecting in said reference image one or more detection cells collectively comprising a detection zone in which a statistically significant change in one or more predetermined features in said time sequence of images to be analyzed is expected to occur; and

(b) second spatially fixed areas of each image in said time sequence of images to veto a detection of a statistically significant change in one or more predetermined features in said time sequence of images by selecting in said reference image one or more veto cells collectively comprising a veto zone in which any detection in said veto zone of a statistically significant change in one or more predetermined features in said time sequence of images is used to disable any detection of a statistically significant change in said one or more predetermined features in said time sequence of images in said detection zone.